# COST ALLOCATION FOR MULTI-SERVICE MICRO-FINANCE INSTITUTIONS[1]

BRIGIT S. HELMS
CGAP SECRETARIAT

## I. Introduction

Micro-finance institutions (MFIs) increasingly see financial viability as a core element of their business strategy. To implement this strategy, MFI managers must analyze their financial statements for indicators of profitability and efficiency. But *which* costs, revenues, and balance sheet items should be included in such analysis? This question can be complicated, especially in multi-purpose organizations.

A number of institutions that provide micro-finance services also offer a range of non-financial services, such as business development services (training and technical assistance to microentrepreneurs) and training in areas like literacy, health, family planning, or nutrition. Should financial services be treated as a distinct cost center *vis á vis* non-financial services in an MFI's accounts?[2] The answer will depend on the MFI's institutional vision and strategy, its commitment to the self-sufficiency of its financial services, and the importance and autonomy of non-financial services within the organization.

Many multi-service MFIs have realized the importance of creating distinct cost centers for their financial and non-financial programs. Separating the financial statements into cost centers facilitates analysis of past and current financial performance of micro-finance services and provides a basis for business planning and projections. Financial analysis allows managers to identify strengths and weaknesses in their micro-finance services and take appropriate action. In some cases, cost allocation represents the first step toward hiving off micro-finance activities to form a separate legal entity. Further, international donors and other funders increasingly rely on business plans and realistic financial

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[1] NOTE: This Occasional Paper is targeted to managers of micro-finance institutions that provide multiple services to their clients. The purpose is to illustrate methods for allocating costs and assets among different programs in order to assess the financial sustainability of micro-finance services.

[2] A cost center refers to an activity or category of activities whose costs and revenues will be grouped together for purposes of financial reporting and analysis. A profit center encompasses activities or programs that earn income (or have the potential to earn income) sufficient to cover costs. While this paper mainly uses terms to "cost centers", the same analysis and procedures applies to profit centers as well.

projections for making funding decisions; only those institutions with separate financial statements can meet this requirement.
Once an MFI decides to separate its business into cost centers, it can approach cost allocation in two ways: 1) conducting periodic cost allocation exercises by making adjustments to financial statements from outside of the accounting system (non-integrated approach); or 2) incorporating a cost allocation system directly into the accounting system (integrated approach). While the integrated approach may be more accurate, the non-integrated approach is equally valid for obtaining a better understanding of the issues involved in cost allocation.

This *Occasional Paper* presents a series of questions MFI managers should ask themselves about allocating costs and assets among cost centers. Using examples from the field and a hypothetical case called Microfem, the paper explores alternative answers to these questions and considers the implications of cost allocation for the financial statements of multi-service MFIs using a non-integrated approach. The paper then explores the usefulness of cost allocation for financial analysis and management purposes. Next, other applications of cost allocation are briefly discussed. Finally, the paper presents a case study of Bangladesh Rural Advancement Committee (BRAC), one of the largest multi-purpose organizations involved in micro-finance in the world.

## II. Cost Allocation

Cost and asset allocation involves adjustments to the income statement and balance sheet of MFIs. The cost allocation process for a multi-service MFI consists of three basic steps, each described in detail in this section:

- Deciding to Allocate and Defining Separate Cost Centers
- Identifying Costs to be Allocated
- Establishing Decision Rules for Allocating Costs

### *Deciding to Allocate and Defining Separate Cost Allocation*

Before embarking on a cost allocation exercise, MFI managers must first decide which services offered, if any, can be considered functionally separate from the provision of financial services. This initial decision depends on the answers to a number of key questions:

Q: How important is financial viability of micro-finance services to the MFI?

It is widely argued that, in a world of scarce subsidized resources, financial viability of micro-finance services is crucial for expanding outreach to large numbers of the world's poor. Financial viability entails covering all the costs of delivering micro-finance services with earned income and retention of profits to capitalize growth. An increasing number of MFIs have taken on the challenge of financial viability of their

micro-finance services.[3] For these MFIs, cost allocation between financial and non-financial services can serve as a powerful tool for understanding the fundamental dynamics of their businesses.

Other MFIs, particularly NGOs that offer a range of services, may not regard financial viability of their micro-finance activities as an important goal. These institutions may find cost allocation cumbersome and irrelevant. However, given the trends in international donor behavior, these NGOs may encounter difficulties in continuing to attract subsidized funds for micro-finance indefinitely, and may be forced to re-think their strategy.

Q: To what extent does the MFI consider its non-financial services as integral to the success of the micro-finance program?

In some micro-finance programs, the provision of skills and literacy training, for instance, is considered vital to core elements of the micro-finance methodology, such as group development and cohesion. In these cases, non-financial services may be seen as directly contributing to good credit/savings behavior, particularly in programs serving extremely poor clients. This sense of "non-separability" may pertain particularly in cases where credit officers are charged with providing training and where on-site technical assistance is inseparable from credit supervision.

If non-financial services are considered an integral part of the micro-finance or lending methodology, then cost allocation between financial and non-financial services may not be warranted. However, some MFIs in this category may still wish to separate out the costs of their non-financial services to better understand their cost structure and to analyze the value of these services relative to their cost. Also, some multi-service MFIs have recognized a certain incompatibility between services they once considered linked; some clients become confused when an institution provides both free or subsidized services while at the same time providing credit that must be paid back. These MFIs may find cost allocation valuable as they consider how to separate financial from non-financial services within their organization. If non-financial services are thought to be complementary (but not necessary) to the successful delivery of financial services, cost allocation is recommended.

Q: Are non-financial services compulsory or voluntary for clients who want financial services?

This question is intimately related to the preceding question; MFIs that consider non-financial services integral to the delivery of financial services are more likely to require clients' compulsory participation in training programs and other non-financial services. Some critics argue that compulsory services (1) increase the financial and non-financial

[3] There is far less consensus or evidence for the need for viability of non-financial services, although the principle of at least partial cost-recovery is increasingly discussed if not embraced.

costs to the client and the MFI; (2) imply a certain level of interference with the client's own judgment as to which services are most useful; and (3) deprive MFI management of valuable information about client satisfaction with the compulsory services. Supporters, on the other hand, believe that clients appreciate non-financial services at least as much as the financial services, and that the benefits afforded by these services, including a sense of personal and social empowerment, exceed the costs involved.

If non-financial services are compulsory in a micro-finance program, cost allocation may not make sense since the MFI implicitly or explicitly considers these services as part of the micro-finance methodology and cost. However, MFIs interested in exploring the possibility of changing their approach and offering these services on a voluntary basis may wish to conduct a cost allocation exercise to guide their planning process. Cost allocation is appropriate for MFIs that offer non-financial services on a voluntary basis.

Q: Does the MFI fund its financial services from different sources than its non-financial services?

Some MFIs recognize that the provision of non-financial services may require ongoing subsidies, particularly those services with a "social" character like health and literacy training. They often approach international donors or national funding agencies for separate financing of these services. This financing may or may not be combined with a fee charged to clients to help cover the costs of delivering the service. Other MFIs expect that these social activities will be financed with income and fees earned from the provision of financial services. Such MFIs may charge a separate commission on loans or otherwise integrate the cost of providing non-financial services into the effective interest rate on financial services.

MFIs that fund their non-financial services separately, either through donations or fees or some combination of the two, are likely to view these services as separate "cost centers". These MFIs are good candidates for cost allocation. MFIs that expect their financial services to cross-subsidize their non-financial services may see the value in cost allocation so they can understand exactly what portion of their income from financial services goes toward covering the costs of non-financial services. Similarly, MFIs that charge a dedicated fee on their loans to cover a specific non-financial service may wish to verify that the fee actually covers the relevant costs.

Q: What proportion of the MFI's business is attributable to non-financial services?

Non-financial services may represent a marginal activity to MFIs. Managers should apply the fundamental accounting principle of "materiality" when making decisions about cost allocation. If non-financial services make up a very small proportion of total costs and institutional effort, a complicated cost allocation exercise is probably not necessary. No fixed standard of materiality can be applied to all cases. However,

MFIs with less than 10% of their costs attributable to non-financial services should consider whether they need anything beyond the simplest cost allocation exercise.

As the above questions indicate, the decision to embark on a cost allocation exercise involves intangible elements including the MFI's institutional vision and its understanding of the relationship between financial and non-financial services. Once the decision is made, choosing which service categories to treat as separate cost centers is relatively straightforward. An MFI may choose to identify only two cost centers: financial and non-financial services. Alternatively, an MFI may wish to further sub-divide each of these two cost centers further. The choice should make clear sense in terms of the MFI's interest in conducting viability and efficiency analysis for different sets of services it offers.

Thus, cost allocation is not a clear-cut issue: MFIs may wish to conduct cost allocation exercises at different levels of complexity, depending on their particular needs and level of institutional development. The remainder of this Occasional Paper presents a spectrum of options, from the very simple to the highly complex.

Box 1: MICROFEM

Microfem is an NGO serving 25,000 poor rural women. In addition to credit and savings, Microfem provides a range of non-financial services, including business training, library services, and nutrition and literacy programs. In the past, Microfem leaders have emphasized the social character of the organization.

While Microfem still believes its non-financial services are vitally important to its members, they have recently decided to pursue financial viability of their financial services as a key goal. Microfem's non-financial services are completely voluntary. To date the organization has not charged any fee for them. Microfem plans to continue funding its financial and non-financial services from separate sources, though it expects that its financial service earnings can partially cross-subsidize the other services in the future. While it has not yet done any cost allocation analysis, Microfem estimates that one quarter of its total costs stem from its non-financial services.

At a recent board meeting, Microfem's Executive Director, Ms. Gupta, proposed that the institution work through a cost allocation exercise. Without such an allocation, she argued, she can neither plan for nor evaluate the financial viability of Microfem's financial services. Based on their institutional strategy and their understanding of the relationship between their financial and non-financial services as described above, the board approved the cost allocation. However, one board member cautioned that Microfem should not try anything too sophisticated, especially since its accounting and information systems are entirely manual. Thus, they decided to embark on a cost-allocation that distinguishes only two cost centers: financial and non-financial services.

***Identifying Costs to be Allocated***

Once the decision to allocate costs has been made and the MFI has defined its different cost centers, MFI managers need to identify those cost categories directly and indirectly attributable to each cost center. MFIs often have the following categories of costs in their chart of accounts:

⇒ Interest Expense
⇒ Loan Loss Provision
⇒ Personnel
⇒ Rent
⇒ Office Materials/Supplies
⇒ Publications/Publicity
⇒ Transportation/Travel
⇒ Telephone and Postage
⇒ Insurance
⇒ Utilities
⇒ Staff Training
⇒ Repairs and Maintenance
⇒ Legal Services/Other Service Fees
⇒ Bank Charges
⇒ Taxes
⇒ Depreciation
⇒ Other

The first step in cost allocation is to identify those costs directly attributable to each of the cost centers chosen for analysis. These costs are often referred to as "direct" or "program" costs. For instance, the MFI would first identify those costs attributable only to the provision of financial services. These costs might include specific personnel expenses (for instance loan officer salaries and benefits), transportation and training for loan officers, loan loss provision, and interest expense on borrowings that fund the loan portfolio. When front-line staff such as loan officers provide both financial and non-financial services, this initial identification of direct costs may be difficult. The next section, "Establishing Decision Rules for Allocating Indirect Costs" gives some guidelines for allocating these kinds of direct costs.

The second step entails identifying the costs shared among the various services, known as "indirect" costs, and also referred to as "general and administrative", "back office" or "overhead" costs. An important component of these costs is salary and benefits for the Executive Director, the Finance Department including accountants, and other overhead staff. Other indirect costs include:

- rent;
- office materials and supplies;
- publications and publicity;
- transportation, travel and training for overhead staff;
- telephone and postage;
- insurance;
- utilities;
- repairs and maintenance;
- legal, audit, and consultant fees;
- bank charges;
- taxes; and
- depreciation.

There are other reasons besides cost allocation for separating direct and indirect costs. For instance, MFI management may wish to track the ratio of indirect to direct costs over time, with a view to decreasing that ratio as the institution grows and matures.

Box 2: Microfem's Direct and Indirect Costs

Following up on her mandate from the Board, Ms. Gupta and her team identified direct costs for the MFI's financial and non-financial services from the prior year's audited financial statements. These costs are shown in Table 1. Ms. Gupta found it relatively easy to distinguish between the two cost centers, since Microfem's branches specialize in the provision of financial services while non-financial services are provided only at headquarters. For instance, she allocated all branch-level salary and benefits expenses to financial services, salaries of program staff implementing the non-financial services to non-financial services, and all other headquarters staff salaries to indirect costs. In addition, consultant fees, materials and supplies, and publicity/publications were easy to allocate among financial, non-financial and indirect costs, since some proportion of these cost categories were targeted to specific programs by donor agreement.

Table 1: Direct and Indirect Costs[4]

Microfem

Figures in '000 local currency (LC)

| | Direct Costs Financial | Direct Costs Non-Financial | Indirect Costs | Total Costs |
|---|---|---|---|---|
| Interest and fee expense | 5,150 | | | 5,150 |
| Loan-loss provision | 2,028 | | | 2,028 |
| Personnel | 5,605 | 1,747 | 1,966 | 9,318 |
| Other Administrative Expenses | 3,384 | 3,575 | 3,589 | 10,548 |
| Staff and Client Training | 2,422 | 2,045 | | 4,467 |
| Consultant Fees | 673 | 801 | | 1,474 |
| Office Materials/Supplies | 79 | 184 | 354 | 617 |
| Publications/Publicity | 47 | 79 | 157 | 283 |
| Transportation/Travel | | | 393 | 393 |
| Telephone/Postage | | | 315 | 315 |
| Utilities | | | 157 | 157 |
| Repairs and Maintenance | | | 275 | 275 |
| Bank Charges | | | 469 | 469 |
| Taxes | | | 307 | 307 |
| Depreciation | | | 847 | 847 |
| Other | 162 | 467 | 315 | 943 |
| Total Operational Expenses | 16,167 | 5,322 | 5,555 | 27,045 |

Ms. Gupta could already gain some valuable information about the structure of the MFI's business. It turns out that about 60 percent of Microfem's costs can be directly

[4] In Table 1 and in subsequent analyses of Microfem, "administrative" expenses refer to all expenses other than interest and fee expense and loan loss provisions. "Operational" expenses refer to all expenses incurred by the MFI.

attributable to its financial services, and 20 percent each correspond to direct non-financial services costs and indirect costs. Ms. Gupta would like to track this relationship, particularly as regards indirect costs, since her goal is to run a leaner administrative structure as Microfem adopts a more business-oriented approach to service provision.

[End Box]

### *Establishing Decision Rules for Allocating Costs*

Having separated direct and indirect costs, the MFI is ready to establish decision rules for allocating indirect costs among different cost centers. The level of complexity of these rules should be commensurate with the MFI's level of development and sophistication of systems. Simple, easily-understood decision rules will usually be preferable. Needless to say, meaningful time-series analysis will be possible only if the decision rules remain consistent from one period to the next.

Most decision rules are formulas that generate ratios for allocating indirect costs (or sometimes total, both direct and indirect, costs) among cost centers. Some common decision rules follow:[5]

1) DIRECT EXPENSE RATIO (DER): Indirect costs are allocated to each cost center in the same proportion as that cost center's share of total direct costs. The formula for allocating indirect costs to financial services using the DER is:

$$\text{Indirect Costs}_{FS} = (\text{Direct Costs}_{FS} \div \text{Direct Costs}_{TOTAL}) \times \text{Indirect Costs}_{TOTAL}$$

For example, consider a simple institution with the following profile:

| | |
|---|---|
| $\text{Direct Costs}_{FS}$ | \$40,000 |
| $\text{Direct Costs}_{NFS}$ | 10,000 |
| $\text{Direct Costs}_{TOTAL}$ | 50,000 |
| $\text{Indirect Costs}_{TOTAL}$ | 20,000 |
| Total Costs | 70,000 |

The DER formula for this institution would be:

$$\begin{aligned} \text{Indirect Costs}_{FS} &= (40{,}000/50{,}000) \times 20{,}000 \\ &= 0.80 \times 20{,}000 \\ &= 16{,}000 \end{aligned}$$

[5] These examples draw partly from Appendix 3 of Women's World Banking (1994) *Principles and Practices of Financial Management*.

In this case, the indirect costs allocated to financial services using the DER equals $16,000. When added to the $40,000 direct costs, total costs for the financial services cost center equal $56,000.

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The DER is straightforward. However, it assumes that indirect costs follow the same pattern as direct costs, which may not always be entirely accurate. Some cost centers may be more or less intensive in their use of back-office staff or fixed assets (for instance) than is implied by the distribution of direct costs. In fact, many experts would argue that financial services are more intensive in back-office staff, particularly relatively expensive top management, than non-financial services like training. Also, the DER assumes that the MFI has successfully distinguished direct from indirect costs. This distinction may be difficult if branch-level staff are directly involved in providing both financial and non-financial services.

2) DIRECT ADMINISTRATIVE EXPENSE RATIO (DAER): The DAER is nearly identical to the DER, except that only direct costs related to administrative expenses are included in the ratio. "Administrative expense" in this context excludes (1) loan loss provision, and (2) interest and fee expense on debt incurred to fund the loan portfolio. The formula is:

$$\text{Indirect Costs}_{FS} = (\text{Direct Admin. Costs}_{FS} \div \text{Direct Admin. Costs}_{TOTAL}) \times \text{Indirect Costs}_{TOTAL}$$

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Following the simple example outlined above, assume that $32,000 of financial services direct costs are administrative costs (i.e. excluding interest and fee expense and loan loss provision). Additionally, assume that all non-financial direct costs ($10,000) are administrative costs. The profile becomes:

| | |
|---|---|
| Direct Admin. $\text{Costs}_{FS}$ | $32,000 |
| Direct Admin. $\text{Costs}_{NFS}$ | 10,000 |
| Direct Admin. $\text{Costs}_{TOTAL}$ | 42,000 |
| Indirect $\text{Costs}_{TOTAL}$ | 20,000 |

Applying the DAER formula:

$$\begin{aligned} \text{Indirect Costs}_{FS} &= (32{,}000/42{,}000) \times 20{,}000 \\ &= 0.76 \times 20{,}000 \\ &= 15{,}238 \end{aligned}$$

When added to the $40,000 direct costs, total costs for the financial services cost center equal $55,238.

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Because it excludes interest and fee expense and loan loss provisions, the DAER ratio may be more accurate than the DER, since different kinds of direct expenses reflect different levels of indirect cost resources. To illustrate, $8,000 interest expense probably implies

much less of a burden on the MFI's indirect cost resources than an equivalent $8,000 worth of field officer time, all other things being equal.

3) SIMPLE PERSONNEL RATIO (SPR): This ratio allocates indirect costs in proportion to the number of personnel directly dedicated to each cost center. The formula for the SPR is:

$$\text{Indirect Costs}_{FS} = (\text{Number of Direct Staff}_{FS} \div \text{Number of Direct Staff}_{TOTAL}) \times \text{Indirect Costs}_{TOTAL}$$

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For example, say the simple institution has 12 staff with the following configuration:

| | |
|---|---|
| Direct $\text{Staff}_{FS}$ | 6 |
| Direct $\text{Staff}_{NFS}$ | 4 |
| Direct $\text{Staff}_{TOTAL}$ | 10 |
| Overhead Staff | 2 |
| Total Staff | 12 |

The SPR formula for financial services is:

$$\begin{aligned} \text{Indirect Costs}_{FS} &= (6/10) \times 20{,}000 \\ &= 0.60 \times 20{,}000 \\ &= 12{,}000 \end{aligned}$$

When added to direct costs of $40,000, the total costs allocated to the financial services cost center equal $52,000.

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The SPR is particularly useful at the branch level since it is very simple and does not require complicated cost calculations and/or timesheet analysis. However, this method works best if significant numbers of staff members are dedicated solely to specific cost center activities. It will not work as well when most front-line staff work on several activities at once.

4) PERSONNEL TIME RATIO (PTR): Either indirect or total costs are allocated to each cost center in proportion to the time dedicated by the relevant staff members to that cost center's main activity. To allocate indirect expenses using the PTR, the MFI tracks or estimates the time spent by back office or headquarters staff (Executive Director, Finance Department, etc.) on each activity. These staff members should be the same ones identified as falling under the indirect costs in the previous exercise. Time tracking can be done through timesheets or diaries, and can be divided into hours or person-days. The time that all headquarters staff (staff defined as belonging to indirect costs) spends on each activity is aggregated and expressed as a proportion of total time spent by administrative staff on all cost centers.

The formula for allocating indirect costs to the financial services cost center using the PTR is:

$$\text{Indirect Costs}_{FS} = (\text{Time Spent by "HQ" Staff}_{FS} \div \text{Time Spent by "HQ" Staff}_{TOTAL}) \times \text{Indirect Costs}_{TOTAL}$$

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In the simplified example, the MFI's two headquarters staff members are the Executive Director and a secretary. The Executive Director spends 30 of 40 hours per week and the secretary spends 20 of 40 hours per week on financial services. Overall, headquarters staff spends 50 of 80 hours on financial services. The PTR formula is:

$$\begin{aligned} \text{Indirect Costs}_{FS} &= (50/80) \times 20{,}000 \\ &= 0.63 \times 20{,}000 \\ &= 12{,}600 \end{aligned}$$

When added to the direct financial services costs ($40,000), the financial services cost center includes costs of $52,600.

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In cases where indirect costs, particularly those attributable to personnel, cannot be identified separately, then the same exercise can be completed by conducting a time allocation analysis for *all* staff members. In this case, total costs would be allocated to financial services using PTR in the following manner:

$$\text{Total Costs}_{FS} = (\text{Time Spent by All Staff}_{FS} \div \text{Time Spent by All Staff}_{TOTAL}) \times \text{Admin. Costs}_{TOTAL} + \text{Financial Costs}_{FS}$$

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For the simple example, consider the scenario where all 12 staff members spend some portion of their time on both financial and non-financial services. A time allocation exercise shows that the 12 staff members work a total of 480 hours per week and spend 250 hours on financial services. Total administrative costs equal $62,000, or the difference between total costs ($70,000) and interest and fee expenses and loan loss provisions on the ($8,000). The formula is:

$$\begin{aligned} \text{Total Costs}_{FS} &= (250/480) \times 62{,}000 + 8{,}000 \\ &= 0.52 \times 62{,}000 + 8{,}000 \\ &= 40{,}240 \end{aligned}$$

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Either PTR formula may correspond more accurately to the "real" distribution of indirect (or total) costs among an MFI's cost centers, since other costs and assets may tend to be used in direct proportion to staff effort. A further advantage is that this decision rule also allows for cost allocation even when indirect costs are difficult to distinguish.

On the other hand, the effort of maintaining time records of this sort may prove excessive for some organizations. For some organizations, a periodic PTR analysis might be conducted for a few weeks at a time in order to allocate relevant costs. Another option

might be to conduct a more informal survey of staff members to obtain a ballpark breakdown of their time over a longer period of time.

5) PERSONNEL COST RATIO (PCR): This ratio uses personnel time allocation as a basis to "weight" the salary and benefit costs of personnel to be allocated to different cost centers. The PCR is applied to the other relevant non-staff costs, and then the allocated indirect staff costs for the service are added to the non-staff costs.

As in the PTR case, the PCR can be used to allocate either indirect costs or total costs. The formulas for calculating each, respectively, follow:

$$\text{Indirect Costs}_{FS} = (\text{Cost of "HQ" Staff}_{FS} \div \text{Cost of "HQ" Staff}_{TOTAL}) \times \text{Indirect Non-Staff Costs}_{TOTAL} + \text{Cost of "HQ" Staff}_{FS}$$

$$\text{Total Costs}_{FS} = (\text{Cost of All Staff}_{FS} \div \text{Cost of All Staff}_{TOTAL}) \times \text{Non-Staff Admin. Costs}_{TOTAL} + \text{Cost of All Staff}_{FS} + \text{Financial Costs}_{FS}$$

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In the simple case, the MFI's two overhead staff members have the following weekly time allocation and salary/benefit levels are:

| | Time on FS | Time on NFS | Total Time | Salary |
|---|---|---|---|---|
| Executive Director | 30 | 10 | 40 | $4,000 |
| Secretary | 20 | 20 | 40 | $1,000 |
| Total | 50 | 30 | 80 | $5,000 |

First, the amount of each staff member's salary and benefits attributable to financial services is calculated. The Executive Director spends 75% of her time on financial services, therefore the amount of her salary allocated to financial services equals $3,000 ($4,000 x 0.75). The corresponding allocation for the secretary is $500 ($1,000 x 0.50). At this point the MFI has a precise figure for allocating indirect personnel costs to the financial services cost center. The PCR is calculated by comparing the sum of the headquarters salaries and benefits attributable to financial services ($3,500) to overall headquarters salaries and benefits ($5,000). The PCR formula is calculated as follows:

$$\begin{aligned} \text{Indirect Costs}_{FS} &= (3{,}500/5{,}000) \times 20{,}000 \\ &= 0.70 \times 20{,}000 \\ &= 14{,}000 \end{aligned}$$

The $14,000 of indirect costs allocated to financial services using the PCR formula should be compared with the $12,600 calculated with the PTR. The higher proportion of costs allocated to financial services in this case reflects the larger weight placed on the Executive Director's time as compared to the secretary's time. The total costs belonging to the financial services cost center in this example equals $40,000 (direct financial services costs) plus $14,000 (indirect allocated costs), or $54,000.

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In the case where indirect staff costs are not easily identifiable because all staff work on both financial and non-financial programs, a time allocation exercise is required for all staff and then weighted by salaries.

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For the simple example, a time allocation exercise including all 12 staff members yielded the following results:

| | |
|---|---|
| Staff Time$_{FS}$ | 250 |
| Staff Time$_{TOTAL}$ | 480 |
| Cost of All Staff$_{FS}$ | $15,063 |
| Cost of All Staff$_{TOTAL}$ | 22,500 |
| Admin. Costs$_{TOTAL}$ | 62,000 |
| Non-Staff Admin. Costs$_{TOTAL}$ | 39,500 |
| Financial Costs$_{FS}$ | 8,000 |

The formula for allocating total costs to the financial services cost center using the PCR in this case is:

$$\begin{aligned} \text{Total Costs}_{FS} &= (15{,}063/22{,}500) \times 39{,}500 + 15{,}063 + 8{,}000 \\ &= 0.67 \times 39{,}500 + 15{,}063 + 8{,}000 \\ &= 26{,}465 + 15{,}063 + 8{,}000 \\ &= 49{,}528 \end{aligned}$$

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The PCR shares most of the benefits and drawbacks of PTR. Compared to the PTR, the PCR gives greater weight to time spent by the Executive Director and other higher-paid staff. Thus, this latter method may provide a more accurate picture of the true staff costs of each service, since each staff member's time is "charged" against the service at its actual price. However, the extent to which the distribution of staff costs (as opposed to staff time) mirrors the distribution of non-staff costs remains an open question. The Executive Director does not necessarily use up more electricity than a loan officer.

6) EXECUTIVE DIRECTOR'S TIME RATIO (EDTR): This ratio applies the same logic to cost allocation as the PTR and the PCR. It can be applied to allocate either indirect or direct costs. The formula for allocating indirect costs for the financial services cost center are:

$$\text{Indirect Costs}_{FS} = (\text{Time Spent by Exec. Dir.}_{FS} \div \text{Time Spent by Exec. Dir.}_{TOTAL}) \times \text{Indirect Costs}_{TOTAL}$$

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For the simple example, the formula is calculated as follows:

$$\text{Indirect Costs}_{FS} = (30/40) \times 20{,}000$$

$$= \quad 0.75 \times 20{,}000$$
$$= \quad 15{,}000$$

When added to direct costs ($40,000), the total costs for the financial services cost center equals $55,000.

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In the case where indirect costs are not easily identified, the following formula can be used:

$$\text{Total Costs}_{FS} = (\text{Time Spent by Exec. Dir.}_{FS} \div \text{Time Spent by Exec. Dir.}_{TOTAL}) \times \text{Costs}_{TOTAL}$$

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The following formula calculates total costs allocated to the financial services cost center for the simple example using the EDTR:

$$\text{Total Costs}_{FS} = (30/40) \times 70{,}000$$
$$= \quad 0.75 \times 70{,}000$$
$$= \quad 52{,}500$$

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Note that the EDTR would not differ from a ratio based on the costs of the Executive Director, since the time spent on each services would be weighted by the same salary and benefit rate.

The EDTR is similar to the PTR and PCR, except that it requires only one person to track or estimate his or her time allocation, which may be simpler for smaller operations. Alternatively, the allocation could be based on the Finance Director's time ratio. Although a good deal of accuracy might be lost, particularly in the cases where indirect costs are difficult to measure, this decision rule will provide a reasonable rough approximation for institutions with limited resources and systems.

Staff costs constitute the most significant single cost category for most MFIs. If branch-level, program staff engage in both financial and non-financial services, analysis based on the indirect cost model may be very difficult to conduct. Therefore, for these organizations, one of the timesheet-based methods will be necessary.

None of the decision rules outlined in this section may provide an entirely accurate allocation of costs: a given cost center may in fact tie up a disproportionate share of certain costs, such as depreciation, maintenance, or mortgage interest. The distribution of these costs across cost centers could differ substantially from the proportions implied by the decision rule ratios, particularly those ratios related to staff time. For instance, in programs where motorcycles are used extensively for micro-finance operations, the proportion of their use for micro-finance may exceed the percentage of overall staff time devoted to that cost center.

One solution to this problem could be a separate allocation of fixed assets and buildings using direct allocation rules (e.g. if 75% of motorcycle use is for micro-finance purposes, then 75% of their depreciation, fuel, and maintenance should be allocated to micro-finance). Some programs use a square footage analysis for allocating building depreciation or maintenance costs. Ultimately, the choice of how to distribute depreciation costs among cost centers rests on the importance of these costs in the MFI's overall cost structure and the extent to which management wishes to fine-tune the analysis.

For many multi-service MFIs, a conservative approach to cost allocation may be warranted. Because donors and other stakeholders increasingly hold MFIs accountable for the financial results of their micro-finance activities (but not necessarily for non-financial services), there is a temptation to under-allocate shared resources to financial service cost centers. At the same time, funding proposals for non-financial services often try to maximize costs to justify budget requests. However, in the name of transparency and an interest in understanding the true financial position of the micro-finance cost center, it may be recommendable to err on the side of overallocating costs to financial services. This is particularly the case for key headquarters staff like the Executive Director, top managers, and accountants in institutions where micro-finance is the main business.

The establishment of decision rules for allocating costs within an MFI can be controversial. As seen by the simple examples provided in this section and the Microfem case in Box 3 below, the decision rules have different implications for the cost structure of each cost center. The managers of each cost center may "compete" to establish the decision rule which makes their program look better financially. This conflict can be particularly acute in cases where managers and other staff receive incentives for good financial performance of their cost center. While the process of resolving disputes on the decision rule can be painful, MFIs often find that the effort is justified by the transparency and additional information provided by the cost allocation exercise.

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Box 3: Testing Alternative Decision Rules for Microfem

Ms. Gupta and her management team could not come to an agreement on a decision rule, so they decided to test all of them and make a decision based on the results of the test. Since they already had information on direct and indirect costs, they could easily calculate the DER and the DAER. To obtain the data necessary for the staff time-based decision rules, all indirect or headquarters staff filled out a timesheet for two weeks, accounting for the number of hours spent on financial and non-financial services. Nearly all staff members worked 80 hours over the two-week period except Ms. Gupta, who worked 100 hours. Table 2 gives the results of the time tracking exercise.

Table 2: Two-Week Timesheet for Headquarters (Indirect) Staff

Microfem

| | Salary and Benefits | Hours | | |
|---|---|---|---|---|
| | | FS | NFS | Total |
| Executive Director | 176,945 | 70 | 30 | 100 |
| Administrative Assistant | 39,321 | 50 | 30 | 80 |
| Financial Services Manager | 117,963 | 80 | - | 80 |
| Financial Planning Manager | 127,793 | 40 | 40 | 80 |
| MIS Support Assistant 1 | 117,963 | 65 | 15 | 80 |
| MIS Support Assistant 2 | 108,133 | 65 | 15 | 80 |
| Planning Assistant | 19,661 | 30 | 50 | 80 |
| Finance and Accounts Manager | 137,624 | 50 | 30 | 80 |
| Accountant | 98,303 | 55 | 25 | 80 |
| Assistant Accountant | 68,812 | 55 | 25 | 80 |
| Bookkeeper 1 | 68,812 | 70 | 10 | 80 |
| Bookkeeper 2 | 58,982 | 70 | 10 | 80 |
| Finance Secretary | 29,491 | 60 | 20 | 80 |
| Mobilization and Enterprise Support Manager | 108,133 | 30 | 50 | 80 |
| Mobilization Coordinator | 68,812 | 20 | 60 | 80 |
| Enterprise Development Services Coordinator | 68,812 | - | 80 | 80 |
| Chief Trainer | 58,982 | 30 | 50 | 80 |
| Trainer 1 | 45,219 | - | 80 | 80 |
| Trainer 2 | 45,219 | - | 80 | 80 |
| Secretary - Mobilization | 19,661 | 30 | 50 | 80 |
| Social Development Manager | 78,642 | - | 80 | 80 |
| Community Development Specialist | 68,812 | - | 80 | 80 |
| Librarian | 58,982 | - | 80 | 80 |
| Health and Nutrition Coordinator | 68,812 | - | 80 | 80 |
| Trainer 1 | 39,321 | - | 80 | 80 |
| Trainer 2 | 39,321 | - | 80 | 80 |
| Other Support Staff 1 | 13,762 | 40 | 40 | 80 |
| Other Support Staff 2 | 13,762 | 40 | 40 | 80 |
| Subtotal Indirect Personnel Expenses | 1,966,053 | 950 | 1,310 | 2,260 |
| Subtotal Indirect Other Administrative Expenses | 3,589,000 | | | |
| Total Indirect Expenses | 5,555,053 | | | |

Based on this information, Microfem constructed a table showing the allocation of indirect costs using the different decision rules (Table 3).

Table 3: Testing the Decision Rules
Microfem ('000 LC)

| | Ratio for Financial Services | Indirect Costs: Allocation to FS | Indirect Costs: Allocation to NFS | Indirect Costs: Total |
|---|---|---|---|---|
| Direct Expense Ratio (DER) | 0.75 | 4,179 | 1,376 | 5,555 |
| Direct Admin. Expense Ratio (DAER) | 0.63 | 3,489 | 2,066 | 5,555 |
| Simple Personnel Ratio (SPR) | 0.85 | 4,722 | 833 | 5,555 |
| Personnel Time Ratio (PTR) | 0.42 | 2,335 | 3,220 | 5,555 |
| Personnel Cost Ratio (PCR) | 0.49 | 2,705 | 2,851 | 5,555 |
| Executive Director Time Ratio (EDTR) | 0.70 | 3,889 | 1,667 | 5,555 |

Ms. Gupta called a management meeting to discuss the relative merits and drawbacks of the alternative decision rules. The managers were surprised to see the wide variation in results; the proportion of indirect costs allocated to financial services ranged from 42 percent using the PTR to 85 percent under the SPR.

Clearly, the choice among ratios will seriously affect the analysis of each cost center's financial viability. After a long, heated discussion, the managers agreed on a modified version of the DAER as a compromise solution. They felt that the DER unfairly "penalized" financial services by including loan-loss provisions and interest expense: as confirmed by the PTR and PCR, these expenses do not "tie up" headquarters time in the same way that personnel or other expenses do. (On the other hand, some argued that keeping these costs low may in fact depend on the effort expended at headquarters attention to funding sources and delinquency policies.) The two-week timesheet exercise to produce the PTR and PCR proved burdensome, so a permanent timesheet system was rejected. Also, the EDTR did not seem very accurate; in fact, during the timesheet exercise the Executive Director happened to spend an unusual amount of time fundraising for the financial services program.

Microfem's managers recognized that the DAER underestimated the value of the cost allocation to financial services in the area of fixed asset depreciation and maintenance. Most of Microfem's fixed assets are motorcycles and equipment used in the financial services cost center. Management discussions revealed that 80 percent of these costs should be attributed to financial services (as opposed to the 63 percent implied by the DAER). They also decided to break out personnel expenses from other indirect expenses (even though the same DAER is applied to both), to make it easier to calculate personnel-related efficiency indicators in the future. After making these adjustments, the overall cost allocation for financial services equaled 66 percent, as shown in Table 4.

Table 4: Cost Allocation: Adjusted Direct Administrative Expense Ratio
Microfem ('000 LC)

| | | Indirect Costs | | |
|---|---|---|---|---|
| | Ratio for Financial Services | Allocation to FS | Allocation to NFS | Total |
| Admin.Expense (excluding personnel, dep., and maint.), using DAER | 0.63 | 1,549 | 917 | 2,467 |
| Personnel Expense using DAER | 0.63 | 1,235 | 731 | 1,966 |
| Depreciation and Maintenance, adjusted upward from DAER | 0.80 | 898 | 224 | 1,122 |
| Total | 0.66 | 3,682 | 1,873 | 5,555 |

[End Box]

## III. Applying the Decision Rules to the Financial Statements

Multi-service MFIs can choose between two basic approaches for allocating costs to different cost centers. For the sake of simplicity, these two approaches can be called "non-integrated" and "integrated". The non-integrated approach usually entails either 1) a one-off cost allocation study; or 2) periodic (e.g. annual) cost allocation management reports based on adjustments to the profit and loss statement (and sometimes the balance sheet). Most existing MFI cost allocation systems fall into this non-integrated category.

The integrated approach involves incorporating a cost allocation system directly into the MFI's accounting system through the chart of accounts. A few MFIs, such as BRAC in Bangladesh, employ this approach, which is probably more accurate, particularly for the balance sheet.[6] However, the integrated approach may not be practical for institutions without fairly sophisticated computerized systems. MFIs wishing to eventually integrate cost allocation into their systems could conduct a "non-integrated" analysis as a first step. This section discusses the application of cost-allocation decision rules to the financial statements of a multi-service MFI using the non-integrated approach.

### *The Profit and Loss Statement*

In the first instance, the application of the decision-rule chosen directly affects the profit and loss statement (also referred to as the income statement).

Interest and fees from financial services are often the main source of earned income for an MFI. Other sources include investment income, fees for provision of non-financial services, and non-operational income such as donor financing. Most income is easily

[6] See section VI for a discussion of BRAC's cost allocation system.

identified as belonging to a particular cost center. Fees for non-financial services are, of course, attributed to their respective cost center.

Both investment income and donor financing are trickier to allocate among the identified cost centers. The MFI can allocate investment income according to the decision rule established for allocating costs, unless this income is specifically designated to fund a particular cost center. In many cases, investments and their income are part of the liquidity strategy for the financial services cost center and thus allocation is straightforward.

Donor funding is often tied to a particular program, in which case allocation is straightforward. Since financial viability analysis is the key motivation for the allocation exercise, an MFI should clearly identify donor financing as non-operational income, showing it as a separate line-item on its profit and loss statement.

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Box 4: Microfem's Profit and Loss Statement

Microfem's Financial Manager has prepared a modified profit and loss statement using the adjusted DAER. In Microfem's case, all operational income came from financial services. Investment income is used to fund costs related to financial services according to Microfem's policy, it is allocated to the financial services cost center. Microfem also attracted two types of donations: 1) funds targeted to specific services, both financial and non-financial; and 2) a capital grant to cover depreciation costs on specific fixed assets. This latter grant is released annually to the profit and loss statement to match the corresponding depreciation charge on fixed assets purchased from an earlier grant. Since the current grant is earmarked exclusively for depreciation costs, and Microfem's management had already decided to allocate 80 percent of depreciation costs to financial services, the same proportion has been used to allocate the grant between financial and non-financial services (Table 5).

Table 5: Profile of Microfem's Donations
('000 LC)

| | | Cost Center | | |
|---|---|---|---|---|
| | Ratio for Financial Services | Financial Services | Non-Financial Services | Total |
| Operational Grant | targeted | 8,989 | 5,551 | 14,539 |
| Capital Grant | 0.8 | 194 | 48 | 242 |
| Total | | 9,182 | 5,599 | 14,781 |

Table 6 gives Microfem's profit and loss statement after applying the adjusted DAER to allocate costs between the financial and non-financial cost centers. Microfem's management team was surprised by the results. Microfem had not previously treated

donations separately from operating income. Since their consolidated profit and loss statement consistently registered a surplus, they assumed the institution had no problems covering its costs. Although they knew their income from financial services did not cover the costs of providing those services, they thought they were closer to operational-self sufficiency than the 73 percent implied by the new profit and loss statement.[7] Also, they had assumed they were raising sufficient funds to cover the full costs of their non-financial services, but when the allocations for indirect costs are taken into account, Microfem falls short by LC 1.6 million. This result implies that they may have been utilizing donations meant to fund the delivery of financial services to subsidize this shortfall, which equals 22 percent of the cost of non-financial services.

Table 6: Profit and Loss Statement
Microfem ('000 LC)

| | Cost Center | | |
|---|---|---|---|
| | Financial Services | Non-Financial Services | Total |
| ***OPERATING INCOME*** | | | |
| Interest and fee income from loans | 10,857 | | 10,857 |
| Income from other finance-related services | 1,520 | | 1,520 |
| Income from investments | 2,139 | | 2,139 |
| **Total Operating Income** | 14,516 | | 14,516 |
| ***OPERATING EXPENSES*** | | | |
| Interest and fee expense | 5,150 | | 5,150 |
| Loan loss provision expense | 2,028 | | 2,028 |
| Personnel expense - direct | 5,605 | 1,747 | 7,352 |
| Personnel expense - indirect | 1,235 | 731 | 1,966 |
| Other administrative expenses - direct | 3,384 | 3,575 | 6,959 |
| Other administrative expenses -- indirect | 2,447 | 1,142 | 3,589 |
| **Total Operating Expenses** | 19,849 | 7,195 | 27,045 |
| ***NET OPERATING PROFIT (LOSS)*** | (5,333) | (7,195) | (12,528) |
| Cash Donations | 9,182 | 5,599 | 14,782 |
| ***TOTAL CONSOLIDATED PROFIT/LOSS*** | 3,850 | (1,596) | 2,253 |

[End Box]

[7] Operational self-sufficiency is defined as (operating income / operating expenses).

### *Incorporating Balance Sheet Accounts*

The application of cost allocation to an MFI's profit and loss statement provides a great deal of management information. However, to conduct profitabilility and efficiency analyses for different cost centers, the MFI needs to make the changes to its balance sheet that correspond to the cost allocations in the profit and loss statement.[8]

This profitability and efficiency analysis, described in more detail in the next section, involves adjusting expenses to account for the effect of inflation on equity and fixed assets. Expenses are also adjusted to reflect the true commercial cost of subsidized funds (liabilities), since this analysis is aimed at understanding the potential commercial viability of micro-finance services. These adjusted expenses are then compared to operational income to arrive at adjusted profits.

Calculation of these adjustments and ratios requires knowledge of the balance sheet items that correspond to the financial services cost center (equity, fixed assets, funding liabilities, total assets). However, balance sheet allocation can be complicated and the level of effort required for this type of analysis may not be warranted for all MFIs. The lending portfolio will usually constitute the most significant asset for the financial services cost center, and a number of useful management ratios compare income, expense categories, and profits to average portfolio balances over the same period. This type of analysis is particularly useful for tracking cost efficiency of the institution. It may be sufficient for management purposes to focus on those portfolio-related indicators that can be easily calculated rather than make the full adjustment to the balance sheet.

For MFIs interested in treating some or all of their different services as profit centers (as opposed to just cost centers), deriving a balance sheet for each cost center is necessary for profitability analysis. In many cases, the MFI can review each account and easily allocate individual account items among cost centers. In cases where allocation is not straightforward, The MFI must first identify those items on the balance sheet that are shared among the MFI's financial and non-financial services These items may include:

- ⇒ Cash and due from banks
- ⇒ Investments
- ⇒ Net fixed assets
- ⇒ Other assets
- ⇒ Borrowed Funds
- ⇒ Other liabilities, including mortgages
- ⇒ Paid-in equity from shareholders
- ⇒ Donated equity -- prior years, cumulative
- ⇒ Donated Equity -- current year
- ⇒ Prior years' retained earnings/losses
- ⇒ Current year retained earnings/losses

[8] Section IV "Cost Allocation and Financial Analysis" provides more detail on financial ratio analysis.

The allocation exercise for the balance sheet assumes that the MFI begins with a consolidated balance sheet and then allocates the different balances to the relevant cost centers. It is also assumed that the MFI has already conducted a cost allocation exercise similar to the one outlined in this paper. For simplicity, this discussion will use two cost centers, financial and non-financial. However, as in the cost allocation case, the MFI can choose the number of cost centers that makes sense from a management perspective.

Once the shared balance sheet items are identified, the allocation exercise has three steps:

1) allocate non-cash assets among cost centers;
2) allocate liabilities and equity among cost centers; and
3) allocate "cash and banks" as a residual asset that balances the balance sheet.

The decision rules for allocating a number of the balance sheet items will have already been determined by the cost allocation exercise for the profit and loss statement. For instance, an MFI could simply apply the decision rule for allocating costs to determine equity for the two cost centers. This section will focus on simple methods; Annex 1 contains some alternatives.

***Step 1: Allocate non-cash assets among cost centers***. Non-cash assets shared among cost centers include investments, net fixed assets, and other assets. The allocation of these assets may already be clear based on previous policies or donor requirements. In cases where allocation needs to be implemented, the simple alternative would be to apply the decision rule already identified for the profit and loss statement to those non-cash assets needing allocation. For instance, for a MFI that used the Personnel Time Ratio (PTR) to allocate costs, the formula for each non-cash asset would be:

$$[\text{Investments} + \text{Net Fixed Assets} + \text{Other Assets}]_{FS} = (\text{Time Spent by Staff}_{FS} \div \text{Time Spent by Staff}_{TOTAL}) \times [\text{Investments} + \text{Net Fixed Assets} + \text{Other Assets}]_{TOTAL}$$

A similar formula could be constructed for each of the other decision rules described in Section II.

---

Consider the simple example presented in Section II. The consolidated balance sheet looks like this:

| ASSETS | | LIABILITIES | |
|---|---|---|---|
| Cash and Banks | 25,000 | Forced Savings | 50,000 |
| Investments | 15,000 | Other Liabilities | 10,000 |
| Portfolio | 200,000 | Total Liabilities | 60,000 |
| Other | 10,000 | EQUITY | |
| Net Fixed Assets | 50,000 | Member Shares | 10,000 |
| | | Previous Year Donations | 400,000 |
| | | Current Year Donations | 100,000 |
| | | Previous Year Retained Earnings | (260,000) |
| | | Current Year Retained Earnings | (10,000) |
| | | Total Equity | 240,000 |
| TOTAL ASSETS | 300,000 | TOTAL LIABILITIES + EQUITY | 300,000 |

Applying the PTR to all relevant non-cash assets in this case would yield the following formula:

$$\begin{aligned} \text{Investments}_{FS} &= (250/480) \times 15{,}000 \\ &= 0.52 \times 15{,}000 \\ &= 7{,}800 \end{aligned}$$

$$\begin{aligned} \text{Net Fixed Assets}_{FS} &= (250/480) \times 50{,}000 \\ &= 0.52 \times 50{,}000 \\ &= 26{,}000 \end{aligned}$$

$$\begin{aligned} \text{Other Assets}_{FS} &= (250/480) \times 10{,}000 \\ &= 0.52 \times 10{,}000 \\ &= 5{,}200 \end{aligned}$$

***Step 2: Allocate liabilities and equity among cost centers***. Liabilities, particularly borrowed funds, can often be allocated directly to the financial services cost center, since many MFIs take out loans only to fund their micro-loan portfolio. In general, most MFIs do not take bank loans or mobilize savings to fund their non-financial services. Some short-term liabilities may require allocation, although much of this exercise may be straightforward. Another allocation case would be a mortgage or other type of long-term loan taken for buildings or other fixed assets. The MFI should allocate these types liabilities among cost centers according to the proportion of the corresponding fixed assets funded with that debt, for instance:

$$\text{Other Liabilities}_{FS} = (\text{Net Fixed Assets}_{FS} \div \text{Net Fixed Assets}_{TOTAL}) \times \text{Other Liabilities}_{TOTAL}$$

In most cases, donated equity will be easily traceable to a particular cost center and allocation will be straightforward. The main issue regarding equity accounts relate to whether a single decision rule can be used that accurately reflects previous years' balances for donated equity and internal retained earnings. The simple alternative would be to apply the decision rule already identified for the profit and loss statement to all equity accounts. For instance, for a MFI that used the PTR, the overall formula would be:

$$\text{Equity}_{FS} = (\text{Time Spent by Staff}_{FS} \div \text{Time Spent by Staff}_{TOTAL}) \times \text{Equity}_{TOTAL}$$

A similar calculation would pertain for all the other possible decision rules described in the previous section. Other options for specific equity components follow.

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For the simple example, the rough method for allocating equity using the PTR would be:

$$\begin{aligned} \text{Equity}_{FS} &= (250/480) \times 240{,}000 \\ &= 0.52 \times 240{,}000 \\ &= 124{,}800 \end{aligned}$$

---

***Step 3: Allocate "cash and banks" as a residual asset that balances the balance sheet.***

"Cash and due from banks" equals the amount of cash on hand or placed in highly liquid instruments to cover cash expenses. The cash balance at the end of the period equals the cash balance at the beginning of the period plus the net effect of all cash transactions, i.e. addition of new sources of cash coming in over the period like increases in cash (not accrued) profits, other equity, savings, and/or debt, and subtraction of new uses of funds such as increases in investments and/or the loan portfolio. Since this cost allocation exercise utilizes a non-integrated approach and adjusts the financial statements outside the MFI's accounting system, the cost center allocations of non-cash assets, liabilities and equity will not yet lead to balanced accounts. It is legitimate to allocate the consolidated cash and due from banks balance to each cost center as a residual account that balances the respective balance sheets. However, this method of distributing cash among cost centers will not be entirely accurate; only an integrated allocation approach that distinguishes between cash and non-cash transactions would give exact figures for cash balances. The formula for allocating cash and due from banks to the financial services cost center is:

$$\begin{aligned} \text{Cash and Due from Banks}_{FS} = {} & \text{Total Liabilities}_{FS} + \text{Total Equity}_{FS} \\ & - \text{Total Non-Cash Assets}_{FS} \end{aligned}$$

Once the MFI has identified the balance sheet items affected by the cost allocation exercise and established decision rules for allocating those balances, it is ready to construct separate balance sheets for its different cost centers.

Box 5: Microfem's Balance Sheet

Beyond simple self-sufficiency and portfolio efficiency analysis, Microfem managers realized that the cost allocation exercise was not sufficient to conduct other kinds of profitability and efficiency analyses that entail comparing operating income, expenses, and profits to average balances found on the balance sheet.

After examining Microfem's current year consolidated balance sheet, the managers determined that the loan portfolio, loan loss reserve, and investments belong to the financial services cost center. Net fixed assets is the only non-cash asset balance shared between financial and non-financial services. For the purpose of allocating depreciation costs, Microfem had already determined that 80 percent of its fixed assets are used to support financial services operations. Therefore, they allocated 80 percent of net fixed assets to the financial services cost center and 20 percent to the non-financial services cost center.

On the liabilities side, both member savings and bank loans constitute sources of funds for financial services only. However, the managers discovered that the "other liabilities" category includes all sorts of accounts payable that proved difficult to allocate between the two service lines. The managers thus decided to utilize the proportion implied by the Adjusted Direct Administrative Expense Ratio (Adjusted DAER) applied in Box 3, Table 4 to the profit and loss statement (i.e. 66 percent to the financial services cost center, and 34 percent to the non-financial services cost center).

Microfem's managers had to give some thought to the allocation of equity balances between financial and non-financial services. In the case of member shares, Microfem managers acknowledged that most of their members initially joined the organization (and thus paid their obligatory shares) to access financial services. However, over time they noticed that the non-financial services have become increasingly important to members, and some women take advantage of these other services even more than the financial services. Microfem as a whole is dedicated to providing a complete package of integrated services to its members. In addition, the cost allocation exercise made Microfem's manager realize that, *de facto*, they were using some portion of incremental membership shares to finance indirect costs related to non-financial services. In the end, the managers opted for the simple approach of using the Adjusted DAER to allocate member shares between the two cost centers.

For its donated equity, Microfem had kept good records related to the restricted uses of previous years' grants, and these were relatively simple to apportion. Similarly, the managers had already allocated their current year donations in their profit and loss statement (Box 3, Table 5). The balance of Microfem's capital grant -- the grant released annually to the profit and loss statement to cover depreciation costs of certain fixed assets

-- was allocated using the 80/20 rule for fixed assets pertaining to financial/non-financial services, respectively.

The allocation of Microfem's retained losses posed a particular challenge to the organization's managers. They had already identified the current year's retained losses for financial and non-financial services through the cost allocation exercise. However, they had no idea as to the proper allocation of previous period losses. After a great deal of discussion, the managers decided that the distribution of the current year's losses between financial and non-financial services probably represented the best guess as to the allocation of previous years' accumulated losses.

Finally, the cash and due from banks accounts for the two cost centers were allocated as residual accounts after adjusting the non-cash assets, liabilities, and equity.

Microfem's current year estimated balance sheet for the two cost centers is shown in Table 7.

Table 7: Balance Sheet
Microfem ('000 LC)

| | Cost Center | | Total |
|---|---|---|---|
| | Financial Services | Non-Financial Services | |
| ***ASSETS*** | | | |
| Cash and due from banks | 7,624 | 955 | 8,579 |
| Total loan portfolio | 62,030 | | 62,030 |
| (Loan loss reserve) | (5,000) | | (5,000) |
| Investments | 17,396 | | 17,396 |
| Net fixed assets | 4,479 | 1,120 | 5,599 |
| **Total Assets** | 86,529 | 2,075 | 88,604 |
| ***LIABILITIES*** | | | |
| Member savings | 14,369 | | 14,369 |
| Loans: subsidized | 28,245 | | 28,245 |
| Other liabilities | 4,654 | 2,368 | 7,022 |
| **Total Liabilities** | 47,268 | 2,368 | 49,635 |
| ***EQUITY*** | | | |
| Paid-in equity from shareholders | 8,007 | 4,073 | 12,080 |
| Donated equity -- prior years, cumulative | 32,352 | 5,709 | 38,061 |
| Capital grants - fixed assets | 1,640 | 410 | 2,051 |
| Donated Equity -- current year | 9,182 | 5,599 | 14,782 |
| Prior year's retained earnings/losses | (6,588) | (8,889) | (15,476) |
| Current year retained earnings/loss | (5,333) | (7,195) | (12,528) |
| **Total Equity** | 39,261 | (293) | 38,968 |
| ***TOTAL LIABILITIES AND EQUITY*** | 86,529 | 2,075 | 88,604 |

Nearly all the assets (98 percent) belong to the financial services cost center. This proportion is much higher than the profit and loss statement would have implied, where the financial services cost center represented around 75 percent of Microfem's total expenses. The balance sheet allocation highlights the "pass-through" nature of the non-financial services cost center, since the non-financial services programs use donor funds to cover expenses and do not accumulate many assets.

Ms. Gupta had originally considered some simpler, less precise methods of allocating Microfem's equity between the two cost centers. However, these blanket rules grossly overstated the value of equity and thus assets for the non-financial services cost center. In addition, the application of the more general decision rules resulted in a negative cash balance for the financial services cost center, which doesn't make sense. Microfem's non-financial services cost center has been consistently underfunded relative to its cost structure and cross-subsidized by the financial services cost center; over time this has resulted in a negative equity position. A general ratio for allocating all equity between the two cost centers would fail to reflect this historical background.

End Box

## IV. Cost Allocation and Financial Analysis

What is the purpose of conducting this cumbersome cost allocation exercise? In the end, it allows MFI managers to understand the basic financial health of their financial services apart from other programs. MFIs are increasingly interested in viewing their financial services as businesses and considering what changes might be necessary to run these businesses on a commercially viable basis. To make these changes, managers need information about the profitability and efficiency of their operations; the most common way to collect this information is through ratio analysis based on financial statements. Therefore, cost allocation to construct financial statements for the financial services cost center provides MFI management with the raw data required for profitability and efficiency ratio analysis.

This section outlines some examples of the type of ratio analysis made possible by the cost allocation exercise.

Inflation and Subsidy Adjustments: An MFI may wish to analyze the extent to which it could cover all expenses if it were operating under fully commercial conditions. Additional costs to the ones included in the profit and loss statement that need to be considered include the erosion of equity due to inflation and the costs of subsidized debt if they had to pay commercial rates. At the same time, inflation has the effect of revaluing

fixed assets, particularly buildings.[9] An MFI can use the following method for adjusting their operating expenses to account for these "costs", using the financial services cost center financial statements as a basis:

Adjusted Operating Expenses = Operating Expenses (from the P&L)
+ inflation * (Average Equity - Average Fixed Assets)
+ commercial i * Average Funding Liabilities[10]
- actual Interest and Fee Expense

The commercial interest rate ("commercial i" in the formula) represents the rate that MFIs would have to pay for their debt if they had to fund it on the commercial market. This rate could equal the 90-day certificate of deposit rate for institutions that take deposits. It could also equal the rate that commercial banks offer their medium-grade clients.

Financial Self-Sufficiency: This indicator measures the extent to which an MFI covers adjusted operating expenses with operational income. This ratio is calculated by using:

$$\frac{\text{Operating Income (from the P\&L)}}{\text{Adjusted Operating Expenses}}$$

(Adjusted) Return on Assets: MFI managers may be interested in the profitability of their assets in order to guide them in managing those assets more effectively. The return on assets ratio compares net operating profit, either adjusted or not, to average assets over the corresponding period. The formula is:

$$\frac{\text{Operating Income - (Adjusted) Operating Expenses}}{\text{Average Assets}}$$

(Adjusted) Return on Equity: The extent to which an MFI's return on equity compares with alternative investment opportunities in the local economy may be of interest to managers. The formula includes:

$$\frac{\text{Operating Income - (Adjusted) Operating Expenses}}{\text{Average Equity}}$$

Portfolio Yield: One way of checking to make sure the portfolio is earning expected income in an efficient manner is to look at portfolio yield. This figure should be compared with expectations based on the MFI's effective interest rates. The formula is:

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[9] For a more complete treatment of inflation and subsidy adjustments, see chapter 2 of Robert Peck Christen (1997) *Banking Services for the Poor: Managing for Financial Success*, Accion International.

[10] Funding liabilities include loans from banks, governments, and donors plus voluntary savings (and involuntary savings if an interest rate is paid on these). Accounts payable is not a funding liability.

$$\frac{\text{Interest and Fee Income}}{\text{Average Portfolio}}$$

Administrative Cost Efficiency: MFI managers often look at the costs of managing and maintaining their loan portfolios. This ratio includes administrative expenses (operational expenses net of interest expense and loan loss provisions), since those costs are most directly controlled by managers. The formula is:

$$\frac{\text{Administrative Expenses}}{\text{Average Portfolio}}$$

Personnel Cost Efficiency: Salary and benefit expenses constitute the single largest component of administrative expenses. MFI managers may wish to track the proportion of total administrative costs since higher proportional personal costs generally reflect a more efficient use of resources. The formula is:

$$\frac{\text{Personnel Expenses}}{\text{Administrative Expenses}}$$

Loan Officer Productivity: The number of active clients per loan officer is a key productivity and efficiency indicator for MFI managers. Increases in productivity are important for cost containment. But on the other hand, an excessively high loan officer caseload could lead to a higher risk of delinquency. This ratio is calculated as follows:

$$\frac{\text{Number of Outstanding Loans (end of period)}}{\text{Number of Loan Officers (end of period)}}$$

Many of these ratios compare "flow" items from the profit and loss statement to "stock" balances from the balance sheet. It is not possible to construct a ratio with profits earned over a period of time in the numerator and an accumulated account balance (i.e. total assets) at the end of a period of time in the denominator. In the ratio analysis, therefore, the denominator always reflects the average value of the balance sheet item over a period of time. Ideally, this average value should be calculated from monthly balances. Since this paper deals with cost allocation for a multi-service MFI, monthly balances may not be feasible. At the very least, an average should be calculated between the beginning-of-period balance and the end-of-period balance.

Profitability and efficiency ratio analysis should be conducted on a continual basis so that managers can track trends. In addition, MFI managers can set internal targets for their institutions, tracking actual performance against targets.

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Box 6: Microfem's Financial Analysis

Microfem saw the value of creating a separate balance sheet for its financial services cost center to set the basis for conducting profitability analysis in future periods. However, Ms. Gupta realized that to calculate profitability and efficiency ratios for the current year, she needed to obtain balance sheet information for last year's financial statements. The flows represented in Microfem's profit and loss statement can only be compared to average balances of balance sheet items over the course of the year. Beginning-year balances were necessary as well as end-of-year balances.

Applying the same cost allocation rules to the previous year, the comparative financial statements in Table 8 were derived.

Table 8: Microfem's Comparative Financial Statements

| | Cost Center | | | | | |
|---|---|---|---|---|---|---|
| | Financial Services | | Non-Financial Services | | Total | |
| | Last Year | Current Year | Last Year | Current Year | Last Year | Current Year |
| **FIT AND LOSS STATEMENT** | | | | | | |
| ***RATING INCOME*** | | | | | | |
| Interest and fee income from loans | 8,965 | 10,857 | | | 8,965 | 10,857 |
| Income from other finance-related services | 441 | 1,520 | | | 441 | 1,520 |
| Income from investments | 1,004 | 2,139 | | | 1,004 | 2,139 |
| **Total Operating Income** | 10,410 | 14,516 | | | 10,410 | 14,516 |
| ***RATING EXPENSES*** | | | | | | |
| Interest and fee expense | 1,756 | 5,150 | | | 1,756 | 5,150 |
| Loan loss provision expense | 1,447 | 2,028 | | | 1,447 | 2,028 |
| Personnel expense -- direct | 4,553 | 5,605 | 1,115 | 1,747 | 5,667 | 7,352 |
| Personnel expense -- indirect | 1,417 | 1,235 | 563 | 731 | 1,981 | 1,966 |
| Other administrative expenses -- direct | 3,884 | 3,384 | 2,238 | 3,575 | 6,122 | 6,959 |
| Other administrative expenses -- indirect | 2,333 | 2,447 | 802 | 1,142 | 3,135 | 3,589 |
| **Total Operating Expenses** | 15,390 | 19,849 | 4,718 | 7,195 | 20,108 | 27,045 |
| ***OPERATING PROFIT (LOSS)*** | (4,980) | (5,333) | (4,718) | (7,195) | (9,698) | (12,528) |
| Cash Donations | 8,530 | 9,182 | 3,413 | 5,599 | 11,943 | 14,782 |
| ***AL CONSOLIDATED PROFIT/LOSS*** | 3,550 | 3,850 | (1,305) | (1,596) | 2,245 | 2,253 |
| **ANCE SHEET** | | | | | | |
| ***TS*** | | | | | | |
| Cash and due from banks | 11,845 | 7,624 | 205 | 955 | 12,050 | 8,579 |
| Total loan portfolio | 42,151 | 62,030 | | | 42,151 | 62,030 |
| (Loan loss reserve) | (2,972) | (5,000) | | | (2,972) | (5,000) |
| Investments | 8,750 | 17,396 | | | 8,750 | 17,396 |
| Net fixed assets | 4,108 | 4,479 | 1,027 | 1,120 | 5,135 | 5,599 |
| **Total Assets** | 63,882 | 86,529 | 1,232 | 2,075 | 65,114 | 88,604 |
| ***ILITIES*** | | | | | | |
| Member savings | 9,665 | 14,369 | | | 9,665 | 14,369 |
| Loans: subsidized | 15,759 | 28,245 | | | 15,759 | 28,245 |
| Other liabilities | 3,515 | 4,654 | 1,279 | 2,368 | 4,794 | 7,022 |
| **Total Liabilities** | 28,939 | 47,268 | 1,279 | 2,368 | 30,218 | 49,635 |
| ***ITY*** | | | | | | |
| Paid-in equity from shareholders | 7,345 | 8,007 | 2,674 | 4,073 | 10,019 | 12,080 |
| Donated equity -- prior years, cumulative | 23,822 | 32,352 | 2,296 | 5,709 | 26,118 | 38,061 |
| Capital grants - fixed assets | 1,834 | 1,640 | 459 | 410 | 2,293 | 2,051 |
| Donated Equity -- current year | 8,530 | 9,182 | 3,413 | 5,599 | 11,943 | 14,782 |
| Prior year's retained earnings/losses | (1,608) | (6,588) | (4,171) | (8,889) | (5,778) | (15,476) |
| Current year retained earnings/loss | (4,980) | (5,333) | (4,718) | (7,195) | (9,698) | (12,528) |
| **Total Equity** | 34,943 | 39,261 | (47) | (293) | 34,896 | 38,968 |
| ***AL LIABILITIES AND EQUITY*** | 63,882 | 86,529 | 1,232 | 2,075 | 65,114 | 88,604 |

Using the data from the comparative financial statements, Ms. Gupta prepared a simple financial report for the financial services cost center, shown in Table 9. For the adjusted expenses calculation, she assumed an 18% inflation rate and 24% cost of commercial funds.

Table 9: Microfem's Financial Analysis
current year ('000 LC)

| | |
|---|---|
| Operating Expenses (from P&L) | 19,849 |
| Inflation Adjustment [(inflation * average equity) - (inflation * average fixed assets)] | 5,906 |
| Subsidy Adjustment [(commercial cost of capital * average funding liabilities) - cost of funds from P&L] | 3,014 |
| Adjusted Operating Expenses | 28,769 |
| Adjusted Operating Profit (Loss) | (14,253) |
| Operational Self-Sufficiency | 0.73 |
| Financial Self-Sufficiency | 0.50 |
| Adjusted Return on Assets | (0.19) |
| Adjusted Return on Equity | (0.38) |
| Portfolio Yield | 0.21 |
| Administrative Cost Efficiency | 0.26 |
| Personnel Cost Efficiency | 0.54 |
| Loan Officer Productivity | 200 |

The financial analysis helped Ms. Gupta and her management team better understand the status of their financial services cost center. They realized that their goal of financial viability is still fairly far off. They decided to use the financial ratios as a baseline for gauging future performance. Comparing portfolio yield to administrative cost efficiency, Microfem managers realized that improved financial performance would entail some combination of the following: 1) increasing interest rates to improve portfolio yield; 2) decreasing administrative costs through improved staff productivity to around 300 clients per loan officer; and 3) portfolio growth.

Microfem plans to re-evaluate its cost allocation system next year, including the various decision rules. Based on the usefulness of this exercise, Microfem has decided to do this analysis on a regular basis and consider integrating cost allocation into its accounting system in the near future.

[End Box]

## V. Other Applications

MFIs can apply the principles behind the cost allocation methods described in this Paper to their operations on a number of levels. For instance, MFIs are increasingly interested in treating their branches as individual cost or profit centers. MFIs concerned with branch-level viability can utilize cost allocation techniques to allocate head-office costs to each of their branches.

While some MFIs make use of the types of decision rules discussed in this Paper for allocating costs to branches, many MFIs allocate head office costs to branches in proportion to the relative size of each branch as measured by outstanding portfolio, number of clients, or number of staff members. This type of decision rule may or may not accurately reflect the level of head office effort and resources actually expended on each branch. For instance, newer branches with smaller portfolios may require relatively more head office attention than mature branches. Therefore, an allocation rule based on portfolio size (or number of clients, or number of staff) implies a cross subsidy by older branches in favor of younger branches. On the other hand, many back office administrative and accounting functions increase in intensity with the volume of loans and transactions, therefore justifying this approach.

Another common method for covering head office expenses at the branch level is transfer pricing. The head office can "charge" branches a flat percentage rate of branch income (or expenses), for instance. More commonly, branches pay a given interest rate on funds transferred from the head office (these funds are normally used to fund the loan portfolio at the branch level). Transfer pricing schemes need to be carefully designed so that all headquarters costs are covered. Determination of the correct transfer price requires careful financial projections and constant updating.

Credit cooperative systems often use transfer pricing, where primary societies pay interest on the net loans from their apex organization. The apex intermediates between surplus and deficit primary societies by collecting excess savings from surplus societies and onlending these funds to deficit societies at an interest rate spread. However, the price of apex funds should be relatively expensive in order to encourage savings mobilization, the foundation of credit cooperative systems.

Even MFIs that do branch-level cost allocation do not necessarily construct complete branch balance sheets, although assets and some liabilities are often allocated. As was seen in this paper, balance sheet allocation, particularly from a non-integrated approach, presents a number of key challenges and may not be worth it for every MFI.

MFIs may also wish to track the financial performance of individual "products" within their financial services line, like specific savings instruments and/or different types of loans (group vs. individual, agriculture, housing, working capital, etc.). Another cost allocation application relates to donor funding. Many donors require separate accounting of expenses related to their particular project or fund. However, this form of funding often

complicates MFI systems with special tracking and reporting requirements at the cost of overall institutional development. Donors should not necessarily prescribe this type of fund accounting.[11]

As this discussion implies, cost allocation can become exceedingly complicated for many-faceted MFIs. For instance, what if an MFI offers five financial and non-financial services from 10 branches, and within financial services has three separate products and needs to produce reports for four different donors? Clearly, a cost allocation system that tried to address all these dimensions would be too complex. MFIs should choose which cost or profit centers make the most sense from a management perspective. As more MFIs adopt cost allocation systems and move from non-integrated to integrated approaches, it is important to avoid the problem of a "proliferation in the chart of accounts" -- i.e. by service, by branch, by donor, etc.[12]

## V. An Example from the Field -- BRAC

BRAC (Bangladesh Rural Advancement Committee) presents an interesting case of cost and asset allocation actually implemented in the field. BRAC employs a complex system utilizing several of the different decision rules discussed in this paper for allocating costs and balance sheet items to various cost centers. BRAC's cost centers, in turn, are analyzed at the branch, regional, and central levels.

BRAC is a large MFI in Bangladesh that began operations in 1972 (financial services in 1974). Its three financial service programs, contained in the Rural Development Project (RDP), Rural Credit Project (RCP) and Income Generation for Vulnerable Development Credit Program (IGVDD, had more than 1.5 million outstanding loan clients as of 31 December 1996, and operated in 32,102 of Bangladesh's 86,000 villages.

In addition to these financial services, BRAC offers several other types of products and services to its members/clients, including:

- Health and Population (Women Health and Development Program and Family Planning Facilitation Program)
- Human Rights and Legal Education (under the RDP project)
- Education (Two Non-Formal Primary Education programs, Educational Support Program)
- Other Programs (Baor Development Program, Emergency Relief and Rehabilitation Program, Small Holder Livestock Development Project)

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[11] See the CGAP Focus Note 9 entitled Anatomy of a Micro-finance Deal: The New Approach to Investing in Micro-finance Institutions" for more details on the new institutional approach to donor funding for micro-finance.

[12] See Christen (1997) for ideas on how to set up a chart of accounts appropriate for fund accounting for MFIs.

- Several “businesses, including Aarong Rural Craft Centre and BRAC Printers
- Sectoral programs that provide business and technical inputs/advice to the sericulture, pisciculture, agriculture and poultry sectors

By 1994, BRAC had developed a cost allocation system that differentiates costs and 17 different financial statements among the many different programs and between the head office and front-line operating units. Each of the different dimensions is considered a cost center.

***Deciding to Allocate and Defining Separate Cost Centers***

As BRAC began to develop more and diverse programs and build an extensive branch system, it recognized that a cost allocation system would benefit operations in two ways:

a. by helping management to clearly measure the performance of the operating units and the different programs, thus improving accountability; and
b. by assisting BRAC to attract and track separate funding for each program.

BRAC chose to develop a cost allocation system that is built into its overall accounting system. It was decided that the high initial costs of setting up the allocation system would simplify the process in the longer term. This decision was aided by extensive computerization at the head office level, although the cost allocation process remains manual at the branch level.

BRAC runs the majority of its programs on the ground through its 372 area offices or branches. The next level management unit is the regional office, and then the head office. The aggregate of all BRAC operations is referred to as the “corporate level”.

BRAC’s system begins at the charts of accounts at the branch level. Each branch maintains ledgers for all the programs that it operates. For the sake of simplicity this paper identifies only two cost centers at the branch level, one of the financial services programs (RCP) and the non formal primary education program (NFPE). In reality, however, any given branch would allocate costs among all programs it implements.

***Identifying Direct and Indirect Costs at the Branch Level***

BRAC first identifies direct costs for each cost center at the branch level. BRAC has separate field staff for RCP and NFPE programs. Field officers for each program and their direct supervisors are allocated to either the RCP or NFPE cost center. Training for both staff and clients is charged directly to the relevant cost center by one of BRAC’s regional training centers. Vehicle operating expenses, fuel and maintenance are recorded in a vehicle logbook and are charged to each cost center on a direct usage basis. Other direct costs that apply fully to the RCP cost center include loan loss provisions, interest

expense and any bank charges. The only other major direct cost is the depreciation of vehicles. In most cases, an employee owns the vehicle and no depreciation is taken. When BRAC owns the vehicle, it is either owned directly by a specific cost center and depreciated accordingly or considered a common use vehicle but owned by RCP and depreciation (RCP's books) or rent (NFPE's books) are allocated according to its usage noted in vehicle logbook.

Indirect costs shared by different cost centers at the branch level include office-related expenses like maintenance, rent, depreciation, stationary, entertainment, and general expenses. In addition, there are staff members known as "common pool staff", consisting of professionals like accountants, cashiers and service staff.

***Establishing Decision Rules for Allocating Costs at the Branch Level***

Indirect costs at the branch level are allocated using several different decision rules. It is assumed that the RCP cost center "owns" the building and related assets like furniture, fixtures, and equipment. Each cost center pays for a proportion of the maintenance and rent (NFPE) or depreciation (RCP) of these assets based on the percentage of total square footage occupied by the corresponding program.

Other indirect costs are allocated based on either the Simple Personnel Ratio (SPR) or the Personnel Cost Ratio (PCR). An estimate for the latter is based on a yearly work time analysis survey conducted with branch level staff and revised annually as necessary.

| Cost | Decision Rule |
|---|---|
| Stationery<br>General Expenses<br>Entertainment | Allocated based on # of direct staff in the cost center's program (Simple Personnel Ratio, or SPR) |
| Common Pool Staff<br>Service Staff<br>Accountant<br>Cashier | Allocated based on an estimate of Personnel Cost Ratio (PCR). |

The branches also incur their share of head and regional office expenses. For instance, the regional manager's office cost is allocated evenly among the relevant area offices covered in the NFPE and RCP programs on a quarterly basis. The allocation of head office costs takes place only at the corporate level. The RCP program at the branch level incurs a cost of funds for onlending of 9 percent per annum; these funds are lent by the head office to branches.

***Branch-Level Profit and Loss Statement***

BRAC produces profit and loss statements at the branch level for all programs on a monthly basis. On the income side, the NFPE does not earn any income at the branch level. RCP earns interest income on its loans outstanding and rental income (from the other programs renting premises). Table 10 gives a sample chart of accounts for the branch-level profit and loss statement.

Table 10: Sample BRAC Branch Profit and Loss Statement

| | Cost Center | |
|---|---|---|
| | RCP | NFPE |
| ***INCOME*** | | |
| Interest income on loans | √ | |
| Rental Income | √ | |
| **Total Income** | | |
| ***EXPENDITURE*** | | |
| Interest and fee expense | √ | |
| Loan loss provision expense | √ | |
| Salaries and benefits | √ | √ |
| Traveling and Transportation | √ | √ |
| Staff training | √ | √ |
| Maintenance | √ | √ |
| General expenses | √ | √ |
| Utilities | √ | √ |
| Stationary and supplies | √ | √ |
| Depreciation | √ | √ |
| Office Rent | | √ |
| Regional Office Logistics and management[13] | √ | √ |
| **Total Expenditure** | | |
| ***EXCESS OF INCOME OVER EXPENDITURE*** | | |
| LESS Interest on BRAC loan | √ | |
| ***NET EXCESS OF INCOME OVER EXP.*** | | |

### *Incorporating the Balance Sheet at the Branch Level*

Although BRAC branches track income and expenditures for each of their cost centers, they create a balance sheet only for the RCP (financial services). Thus, at the branch level, all programs are treated as cost centers except for the RCP which is considered a "profit

[13] Applied quarterly only.

center" because it is the only program that earns revenue. At the aggregate or corporate level, however, a full set of financial statements for each cost center is prepared. The branch cost allocation system feeds into these statements.

Since the allocation system is built into BRAC's accounting system, the allocation of balance sheet items for the RCP program at the branch level is relatively simple. Nearly all branch assets are allocated to the RCP cost center. Most fixed assets are "owned" by the RCP, with the exception of those fixed assets solely used by the NFPE, such as field officers' motorbikes. All other fixed assets, including common use assets, are posted to the RCP balance sheet.

Current assets at the branch level, with the exception of "stock of books" (educational materials) for the NFPE, are allocated to the RCP cost center. NFPE does not keep any bank accounts at the branch level and cash requests and receipts are channeled through the RCP bank account earmarked for NFPE. Other assets, including the loan portfolio, are allocated to the RCP.

Funds and liabilities are also simply allocated. All liabilities are allocated to the RCP, including current liabilities, member savings (group trust fund, compulsory savings, own contribution (voluntary savings)) and the current account with the head office (usually financing the loan fund). Equity is considered the capital financing of fixed assets and any accumulated surplus of income over expenditure; since the RCP generally "owns" nearly all fixed assets and earns the largest surplus, equity items are mostly allocated to that program.

***Using the Financial Statements for Analysis at the Branch Level***

At the branch level, BRAC conducts rigorous analytical evaluation only on the credit/savings programs (RCP and RDP). Each branch uses its financial statements to measure productivity of staff, operating efficiency of non-staff operating costs, profitability, and funding position.

The following list gives the ratios and BRAC's stated purpose for tracking each one:

- Salary Expense as a Percentage of Total Loans Outstanding: reveals staff productivity because it compares salary expenses with the loan volume produced by that staff.
- Other Operating Expense as a Percentage of Total Loans Outstanding: shows that branch operating expenses directly affect the branch's profitability.
- Operating Profit as a Percentage of Total Assets (or Average Loans Outstanding): either one of these ratios measures the profitability of a given branch relative to its assets (or to its loans outstanding). For RCP branches, total assets should approximately equal loans outstanding.
- Savings as a Percentage of Total Loans Outstanding: compares the level of member savings (group and individual savings) to loans outstanding. To truly function as a bank, RCP must raise member savings to fund its loans.

- Housing Loans as a Percentage of Total Loans Outstanding: compares the volume of housing loans to the total branch portfolio. This adversely affects profitability since housing loans carry a lower 10 percent interest rate.

Current reports on these ratios are prepared quarterly at the head office and are subsequently sent back to the branches. Since these reports are executed for all branches, they can be used by the branches for comparison to their peers. BRAC plans to have the branches prepare the analysis monthly for their own purposes. The head office will continue to provide quarterly comparisons. [14]

***Cost Allocation at the Corporate Level***

Cost allocation at the branch level provides the basic input into corporate cost allocation. The first step to allocating costs to each program is to identify the direct and indirect costs.

Regional Office. Each Regional Office is dedicated to a specific program (cost center) and consists of a Regional Manager and two staff members. Typically, one regional office covers 20 branches. That is, an NFPE regional manager would oversee 20 NFPE programs run out of 20 branches. Thus the costs related to the Regional Offices are very easily allocated among programs. BRAC prepares full financial statements for Regional Offices quarterly but a profit and loss statement on a monthly basis, allowing allocation to the various branches.

Head Office. Each cost center incurs direct costs relating to:

- Staff: The head office has dedicated operational staff to each program. In addition, each program has its own accounting, administrative, and audit staff. Each staff member is designated to a cost center by a special code in the accounting system.
- Vehicle operation and depreciation
- Equipment
- Furniture and Fixtures
- Stock

The above costs are easily tracked and allocated.

BRAC's indirect costs (called Common Costs) and the decision rules for allocating them follow:

| Cost | Decision Rule |
|---|---|

[14] BRAC uses end-of-period balances (e.g. loans outstanding) rather than average balances since the analytical period is relatively short, only three months (soon to be monthly), and the difference between averages and end balances is not that large. Also, end balances are easier to calculate for branch staff.

| | | |
|---|---|---|
| Office Maintenance<br>Rent | } | Allocated based on percentage of total square footage occupied by cost center program. |
| Shared Vehicles | } | Depreciation and operating expenses allocated through usage logbook |
| Shared Management | } | Allocated according to percentage of total program expenditure, based on branch and regional office allocations, not including loan disbursements (similar to the Direct Administrative Expense Ratio, DAER) |

For the RCP program, each year these direct and allocated head office expenses are reconciled to the 9 percent charge on loan funds.

***Global Profit and Loss Statement***

BRAC produces global profit and loss statements by program every six months. Overall RCP profit and loss statements are completed monthly.

The NFPE program income statement, only prepared at the corporate level, shows income coming from donations and bank interest. Bank interest is generated on excess accounts held at the head office. Expenses are drawn directly from the program's accounts as noted above.

The RCP income statement mirrors those of the branches, but has the additional interest earned on investments held at head office. Any head office expenses are directly booked to each account. For example, any head office salaries and benefits related to RCP are incorporated directly into the line item on the expense statement. Interest expenses on the head office loan is eliminated at this level, after reconciliation.

***Incorporating the Balance Sheet at the Corporate Level***

Generating a balance sheet for each program at the head office level is a relatively simple process:

NFPE
Many of the "social" programs are separately financed, and these funds are tracked from receipt of donations. Each program has its own balance sheet, with assets pertaining directly to the program allocated. Current assets include stocks of books (held at both

shared branches and free standing branches). Other current assets, such as advanced deposits and prepayments, accounts receivable, current accounts with area offices, cash and bank balances pertain to "free standing" branches, or those branches which operate only NFPE programs. Fund control is the head office account, where excess cash balances are held at the head office.

These assets are funded by current liabilites which include a motorcycle replacement fund, and small deferred liabilities such as accounts payable, or deferred expenses. The primary funding is through a "program fund" which is composed of the balance of donations, advance donations, and any surplus or deficit for the year. This type of funding is allocated based on receipts of donations earmarked specifically for this program.

RCP
All common use fixed assets at this level are "owned" by BRAC as a whole, as opposed to any particular program. The remainder of the asset side of the balance sheet looks like that of a branch with the addition of fund control (head office cash and bank balances) and short-term investment accounts held at the head office. These assets are funded by short term liabilities such as client deposits and expenses payable and a longer term liability, the motorcycle replacement fund. Finally equity, or the program fund, includes an opening balance (donor capital and any retained earnings) and any surplus or deficit for the year's operations, plus some minor adjustments and inter-program transfers.

***Using the Financial Statements for Analysis at the Corporate Level***

The corporate financial statements that are generated for each program operated by BRAC are reported in its Annual Auditors' Report and Financial Statements. External analysis on RDP/RCP financial statements is performed by outside consultants each year. Other programs are evaluated periodically according to donor request or agreement.

Internal analysis is performed every six months for all programs. For non-financial services, management primarily examines budget variances and, at times, develops a unit cost for certain services. For example, the cost per child educated or vaccinated. Analysis of the consolidated RCP financial services is also performed every six months. This analysis includes ratios on the profit and loss statement, the balance sheet and overall portfolio analysis. To date, the analyses do not feed into staff performance evaluations although this is currently under consideration.

***Conclusion***

The BRAC case is a good illustration of the issues and benefits discussed in this paper that relate to conducting cost allocation for a large multi-service MFI. BRAC's cost allocation

system is among the most sophisicated in the MFI industry and provides a number of interesting insights.

The level of complexity of the decision rules employed by BRAC is commensurate with the systems available at different levels of operation. For instance, at the branch level BRAC uses simple, intuitive rules combining the Simple Personnel Ratio, the Personnel Cost Ratio, a flat transfer fee for head office funds, and direct usage of vehicles and premises. At the corporate level, BRAC applies more complex rules related to reconciliation of the cost of funds transfer and a form of the Direct Administrative Expense Ratio. All decision rules are carefully designed and reviewed on a periodic basis.

Another important feature of BRAC's cost allocation system is the distinction between cost and profit centers at the branch level. For instance, full financial statements (profit and loss statements and balance sheets) are prepared frequently for the RCP program to facilitate financial analysis and monitoring of branch performance for that program. The RCP program is clearly treated as a profit center. Alternatively, other programs produce profit and loss statements at the branch level, but full financial statements only at the regional or corporate level. In these instances, analysis is conducted at less frequent intervals. These other programs are considered cost centers and not necessarily evaluated in terms of their profitability. This differentiation shows how BRAC's allocation system reflects management information requirements and analysis priorities.

BRAC's complex system is critical for enabling management to effectively monitor and analyze its financial and non-financial programs at several different levels of operation -- branch, regional, headquarters, and corporate. BRAC's decision to install an integrated allocation system that allows management to track 17 different cost centers was based on its interest in improving accountability of operating units and different programs.

Annex: Alternatives for Allocating Balance Sheet Items

As discussed in Section III, balance sheet items are often fairly straightforward to allocate, and in most cases, a simple decision rule will suffice. However, in cases where careful records have not been kept or many programs vie for use of the same assets, liabilities, and/or equity capital, more complex allocation methods may be required. This annex contains a few ideas for allocating these items, but does not necessarily cover all possible options.

*Investments*. The allocation of investments to different cost centers depends directly on the use of the investment income. This allocation would have already been determined for the profit and loss statements. If the MFI uses its investment income solely to fund costs related to the provision of financial services, then the investment balance should be allocated to financial services. If, on the other hand, the MFI invests some funds specifically to generate income to defray the costs of its non-financial services, it should allocate investment balances in proportion to the use of this income. For financial services, the allocation formula is:

$$\text{Investments}_{FS} = (\text{Investment Income}_{FS} \div \text{Investment Income}_{TOTAL}) \times \text{Investments}_{TOTAL}$$

*Net Fixed Assets*. An MFI's net fixed assets equals the gross value of fixed assets minus the accumulated depreciation. The MFI would have already established a decision rule for allocating the current year's depreciation based on the proportional use of fixed assets in the provision of each service. Since both the gross value of fixed assets and accumulated depreciation on those assets is assumed to follow the same pattern, net fixed assets can be allocated to financial services with the following formula:

$$\text{Net Fixed Assets}_{FS} = (\text{Current Depreciation}_{FS} \div \text{Current Depreciation}_{TOTAL}) \times \text{Net Fixed Assets}_{TOTAL}$$

*Donated Equity*. Grants from international and/or national donor agencies can be divided into prior period, cumulative donations and current period donations. In many cases, donors require that an MFI spends their funds on specific programs/services and allocation of these funds among cost centers is straightforward. The MFI may have already allocated the current period's donations as income to different cost centers as part of the cost allocation exercise. An MFI that has difficulty allocating previous periods' donations to financial and non-financial services has at least three options. First, the MFI can assume that the distribution of this year's donations is the best estimate of previous years' donations. The formula is:

$$\text{Previous Periods' Donations}_{FS} = (\text{Current Period's Donations}_{FS} \div \text{Current Period's Donations}_{TOTAL}) \times \text{Previous Periods' Donations}_{TOTAL}$$

Previous periods' donations could alternatively be allocated according to each cost center's proportion of total operating costs, both direct and indirect

$$\text{Previous Periods' Donations}_{FS} = (\text{Operating Expenses}_{FS} \div \text{Operating Expenses}_{TOTAL}) \times \text{Previous Periods' Donations}_{TOTAL}$$

These are only two of several possibilities for approaching the difficult problem of allocating previous periods' donations.

*Retained Earnings/Losses*. As in the case of donated equity, retained earnings or losses break down into previous periods' retained earnings and current period retained earnings (called "net operating profit" in the profit and loss statement shown in Table 6). Unlike the donations case, however, MFI managers will not know the breakdown of previous periods' retained earnings between services unless they have conducted cost allocation exercises for those earlier periods. The same two options apply to this case as for allocating past period donated equity:

$$\text{Previous Periods' Retained Earnings}_{FS} = (\text{Current Period's Retained Earnings}_{FS} \div \text{Current Period's Retained Earnings}_{TOTAL}) \times \text{Previous Periods' Retained Earnings}_{TOTAL}$$

$$\text{Previous Periods' Retained Earnings}_{FS} = (\text{Operating Expenses}_{FS} \div \text{Operating Expenses}_{TOTAL}) \times \text{Previous Periods' Retained Earnings}_{TOTAL}$$

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